Special Applications – Pick Up Box Removal

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PICKUP BOX REMOVAL PROGRAM

Alterations to Complete Vehicles

Important: GM Validates & Certifies the 8 foot or `Long Box' 56" CA (Cab to Axle) Chassis models for RPO-ZW9 Factory Box Delete and Pickup Box Removal. Other additional model Box/CA combinations require the Second Stage Manufacturer/Upfitter to complete any FMVSS/CMVSS etc. certification related compliance.

Please refer to corresponding specific vehicle/model as equipped IVD (Incomplete Vehicle Document) RPO-ZW9 Metrics & FMVSS/CMVSS Certification information for Pickup Box Removal upfits. For `Available Rear Upfit Body Weight' (with payload) use IVD `Table A ' chart Maximum Unloaded Vehicle Weight (Completed Vehicle Maximum Weight) metrics, minus Rear Curb.

Persons who alter complete (certified) Pickup Trucks by removal of the Pickup box should be aware that this type of activity would impose upon them the corresponding responsibility for ensuring that the units as sold are in compliance with all applicable safety and/or emissions (including noise and RFI) requirements. Specific questions concerning compliance or certification to these requirements should be directed to the vehicle alterer's legal counsel or the National Highway Traffic Safety Administration, the Environmental Protection Agency, the California Air Resources Board, or in Canada, the Ministry of Transport or the Canadian Department of Commerce.

The Environmental Protection Agency has provided an explanation of the policy they will follow regarding the modification by the secondary manufacturers of complete Light Duty Trucks prior to sale and delivery to the ultimate purchaser. This explanation is contained in a letter from C. N. Freed of the EPA to M.H. McBride of the Recreation Vehicle Industry Association, dated July 13, 1979. A portion of this letter states:

"Secondary manufacturers are not manufacturers under the [Clean Air] Act when the following conditions are met:

1. The vehicles produced by a secondary manufacturer conform in all material respects to the design specification in the original manufacturer's application for certification (hereafter 'Application'); and

2. The weight of the vehicles produced by a secondary manufacturer, including the weight of fuel at nominal tank capacity, is no more than 500 lbs. above the maximum vehicle weight."

No frontal area restrictions will apply to secondary manufacturers who comply with the conditions above. However, every vehicle sold to an ultimate purchaser must be covered by emission warranty mandated by section 207(a) of the Act. Secondary manufacturers who do not meet the above conditions will be considered manufacturers under the Act and will be required to ensure that the vehicles they produce are covered by a certificate of conformity.

(Alterations – continued from previous page)

The Maximum vehicle weight for a given vehicle is determined by:

A) Subtracting 300 lbs. from the highest loaded vehicle weight (see 40 CFR 86.082-2 for loaded vehicle weight defnition and the table at 40 CFR 86.129-94) associated with the test weight listed in the application for the vehicle, and

B) Adding the weight of all options that are offered by the original manufacturer for the applicable truck line that were not included in the curb weight reported in the application.

In the case of mutually exclusive options, only the weight of the heavier option is to be used when computing the maximum vehicle weight.

In addition, the California Air Resources Board has provided an explanation of the policy they will follow regarding the modification by the secondary manufacturers of complete Light Duty Trucks prior to sale and delivery to the ultimate purchaser. This explanation is contained in the California Exhaust Emission Standards and Test Procedures for Passenger Cars, Light Duty Trucks and Medium Duty Vehicles, adopted March 22, 2012 and dated December 6, 2012.

A portion of this document states:

"Certification, if granted, is effective only for the vehicle/test group described in the original manufacturer's certification application.

Modifications by a secondary manufacturer to vehicles/engines shall be deemed not to increase emissions above the standards under which those vehicles/engines were certified and to be within the original certification if such modifications do not: (1) increase vehicle weight more than 10 percent above the curb weight, increase frontal area more than 10 percent, or result in a combination increase of weight plus frontal area of more than 14 percent; or (2) include changes in axle ratio, tire size, or tire type resulting in changes in the drive train ratio of more than 5 percent; or (3) include any modification to the emission control system. No originally certified vehicle/engine which is modified by a secondary manufacturer in a manner described in items (1) through (3) of the preceding sentence may be sold to an ultimate purchaser, offered or delivered for sale to an ultimate purchaser, or registered in California unless the modified vehicle/engine is certified by the state board in accordance with applicable test procedures to meet emission standards for the model year for which the vehicle/engine was originally certified. For the purposes of this subsection, "secondary manufacturer" means any person, other than the original manufacturer, who modifies a new motor vehicle prior to sale to the ultimate purchaser."

Those who wish to remove the Pickup box from a Pickup Truck for the purpose of installing special equipment or another type of body should be further advised that a Pickup may require modification in one of the following areas. Before a decision is made to alter a C/K Pickup Model, please be advised of the following considerations:

Vehicle:

Analyze the vehicle specifications for product content. The option content of a particular vehicle will determine which if any of the five areas of modification might not be applicable to the vehicle alterations contemplated.

Service Parts:

The service parts and related service part number as outlined in the five areas of modification may be ordered through your local Chevrolet/GMC Dealer. Contact your Dealer's Service Parts Representative for availability and price.

Areas of Modification:

1. Fuel filler neck assembly, housing, and ground strap.
2. Rear axle vent hose.
3. Tail lamp, tail lamp wiring harness and license plate bracket assembly.
4. Spare tire mounting.
5. Body pressure relief valve (see UI Bulletin #44).

CMVSS and FMVSS

Compliance of Canadian and Federal Motor Vehicle Safety Standards will be affected by Upfitters removing Pickup Box and Rear Bumper to install a second unit body:

MVSS 105 – Hydraulic brake (Vehicles greater than 3500 kg (7716 lb) GVWR)

MVSS 108 – Lighting Equipment

MVSS 111 – Rear View Mirrors

MVSS 135 – Light Vehicle Brakes, applies to vehicles 3500 kg (7716 lb) GVWR or less

MVSS 204 – Steering Control Rear Displacement

MVSS 208 – Occupant Crash Protection

MVSS 219 – Windshield Zone Intrusion 4536 kg (10,000 lb) or less

MVSS 301 – Fuel System Integrity, trucks

Note: Generic copies of the General Motor Incomplete Vehicle Documents can be obtained from the website (www.gmupfitter.com) and can be used as a reference guide in the compliance to these standards.

Special Applications – Pick Up Box Removal

Pickup Box Removal Fuel Fill System Modifications for Gasoline & Diesel fueled Vehicles

Certain guidelines must be adhered to in modifying the fuel fill and vent system to ensure that the completed product meets the manufacturer's requirements.

NOTE: Guidelines 2, 3, 5 & 6 currently do not apply to CK HD (2500, 3500) applications. Guidelines 7-10 do not apply to CK LD (1500) applications.

1. The fuel fill and vent system, including rear differential vent, must be installed such that there is adequate clearance between the fuel fill vent system and the tires under all operating conditions, including protection from road debris. Shielding the fuel pipe is recommended to adequately protect from damage that may occur under conditions of tread and or belt separation from the tire. Shielding must have friendly, non-sharp surfaces and no fasteners shall be facing in the direction of the fuel filler pipe assembly. Upfit Body attachment brackets must also be located such that there is adequate clearance to all fuel system components, such as the fuel lines and the fuel level sending unit, under all operating conditions.
2. The fuel fill/vent pipe system attached to the vehicle frame upon delivery must be positioned in the location show on PB-53 of this document in order to meet vehicle Federal US EPA and California emission and certification requirements. Fill hose, vent hose, and fill pipe must not be altered.
3. Both the fill and the vent hoses must be routed (and supported, if needed such that there are no sags or kinks. Routing and location shown on page PB-53 of this document are required in order to meet vehicle Federal US EPA and California emission and certification requirements.
4. The fuel fill and vent system should be restrained in the upfit vehicle. This is necessary to avoid chaffing, fretting, rubbing etc. which may cause wear to pipes and hoses.
5. The fuel fill pipe inlet area of the fill pipe assembly maintained at 35 degrees from ground (horizontal).
6. Fuel fill hose clamp between the fuel tank inlet check valve and the fill pipe hose is to be tightened to 3.5 Nm +/-0.5Nm (dynamic) torque (as assembled from the GM Assembly Plant). The clamp between the fuel fill pipe inlet and the fill pipe hose is to be tightened to 5.5Nm +/-0.5 Nm (dynamic) torque (as assembled at the fill pipe supplier).
7. The fuel fill/vent pipe system available from the dealer includes a number of additional hose retaining beads. The pipe can be trimmed at the hose retaining beads to adjust for the various chassis lengths and body widths. The pipes must be trimmed only at locations where a hose retaining bead is present. A hose retaining bead must be present at each pipe to hose interface in a modified fuel fill and vent system. Pipe ends must be free of burrs which may be detrimental to satisfactory assembly and/or function.
8. A minimum of 8.0 inches of fill hose must be maintained between the filler neck and the fuel tank as measured in an outboard direction from the tank surface (at the fill hose nipple) to the outlet end of the filler neck.
9. Both the fill and the vent hoses must be routed (and supported, if needed) such that there are no sags or kinks. Excess hose length may be removed as required provided hose does not kink. As viewed from the filler neck, pipes and hoses must have a min downward slope of 4º of downward slope at any location.
10. Fuel fill hose clamps are to be tightened to 22 lb.-in. torque, Fuel vent hose clamps are to be tightened to 16 lb.-in. torque.

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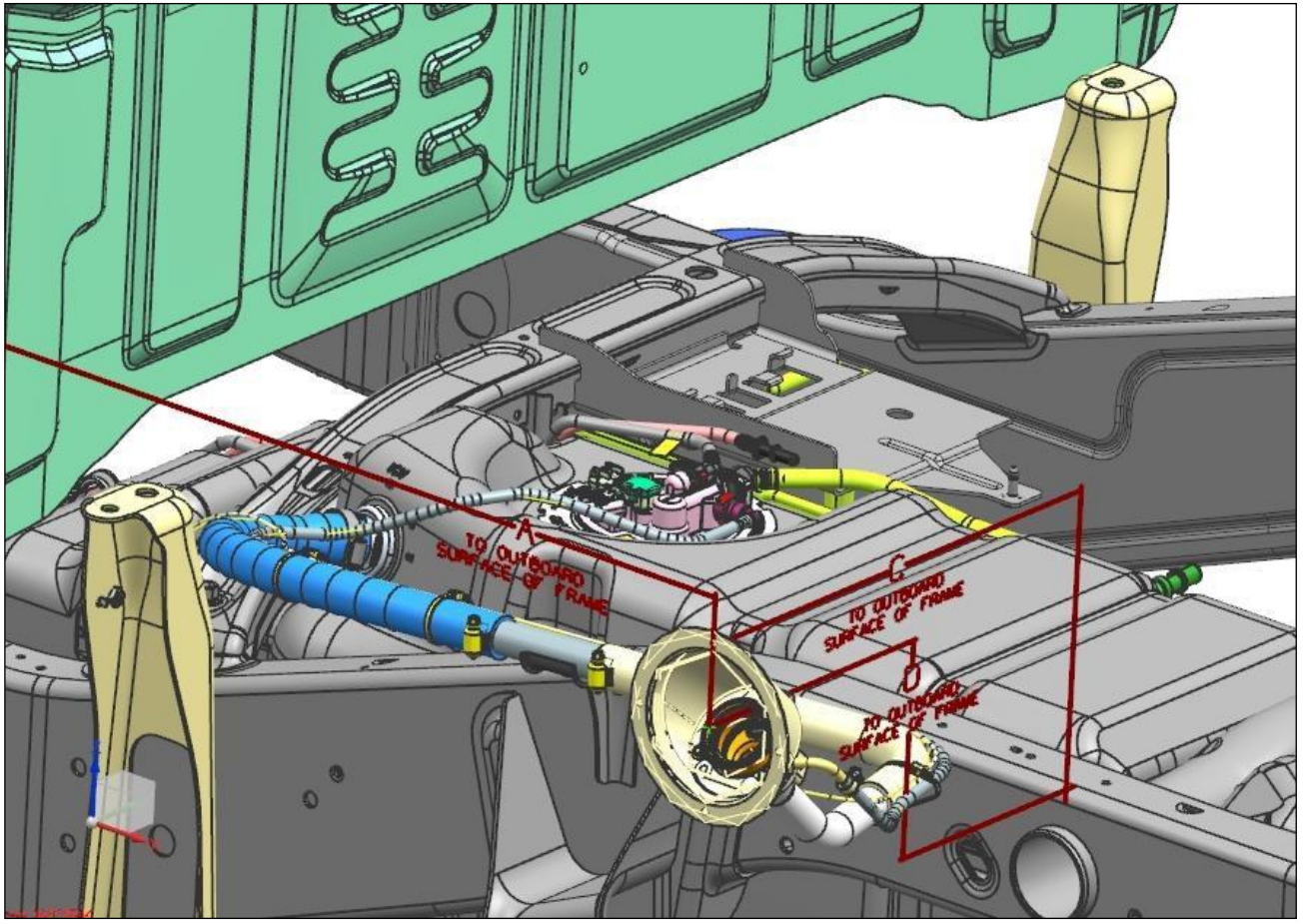
CK LD ZW9/Box Removal non-E85 Fuel Filler/Positioning

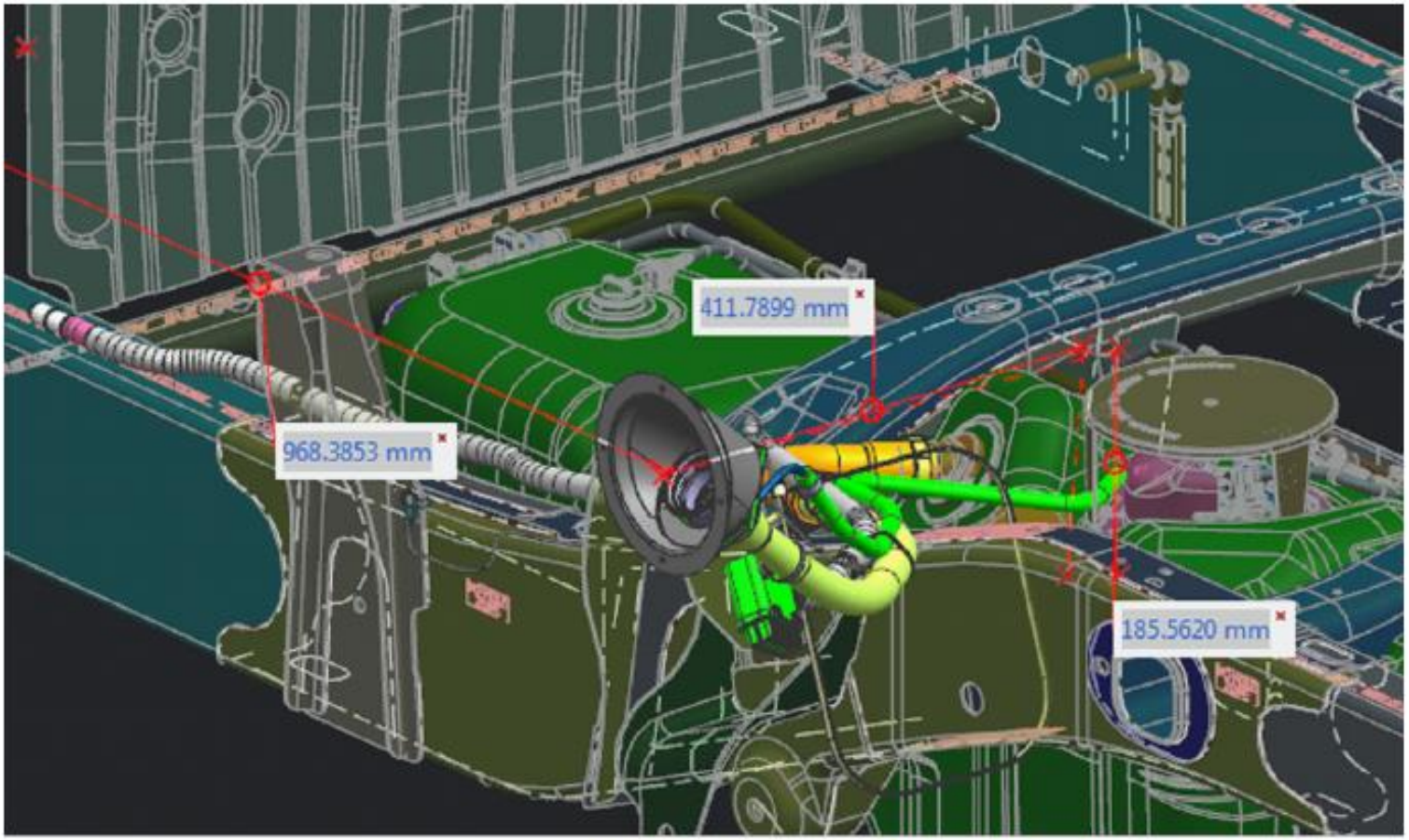


23321250 CK LD ZW9 Fuel Filler Assembly (non-E85)
****Scoop Location / Positioning Tolerance**

A	**990.6(39.00”)**	**+/- 25.4**
C	**457.2(18.00”)**	**+/- 13.0**
D	**181.4(7.14”)**	**+/- 13.0**

**Fuel Filler Scoop location & routing within above tolerance zone are validated by GM to meet Federal requirements.

Special Applications – Pick Up Box Removal

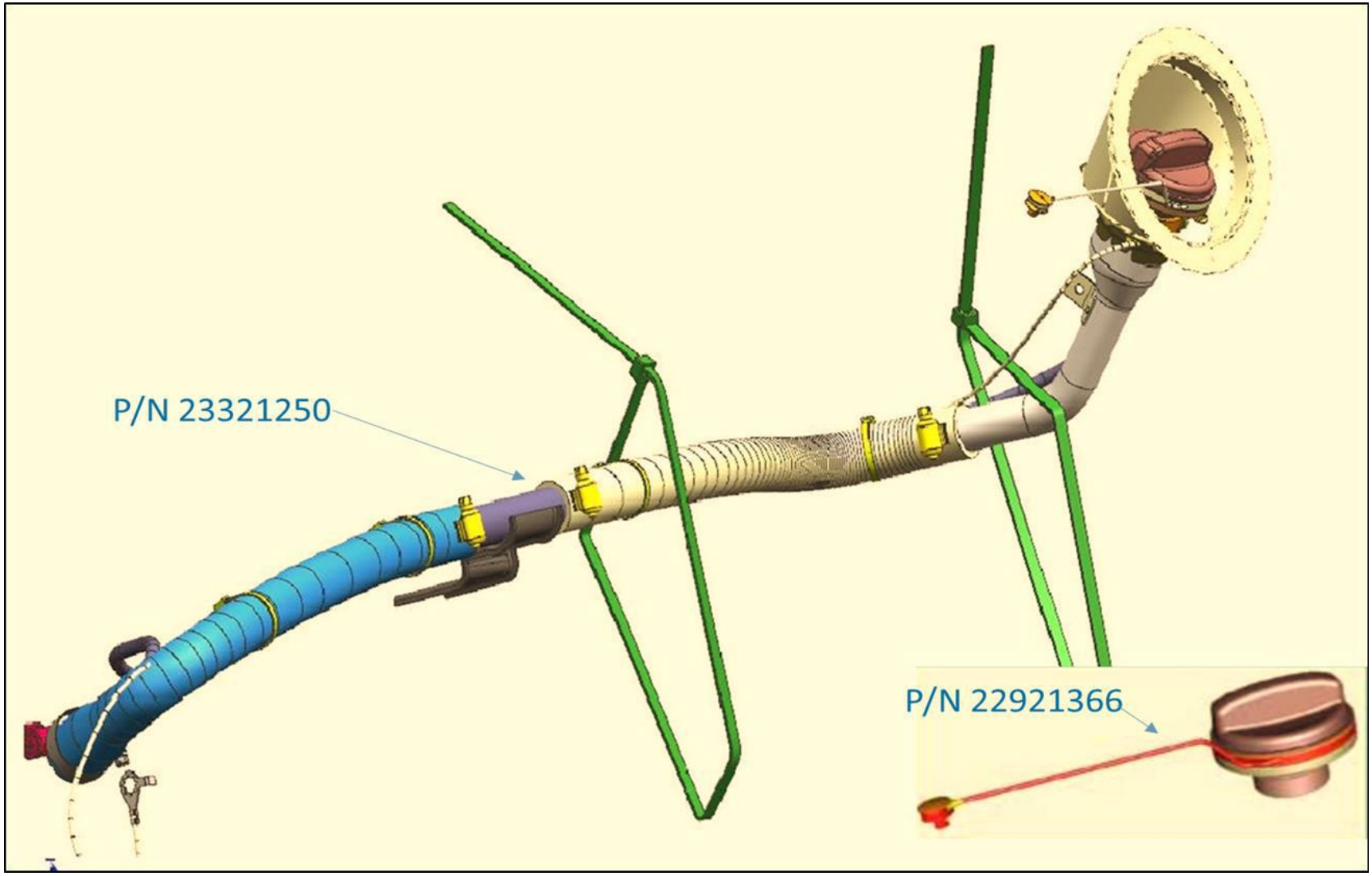


P/N: 84663534 – CK LD 10903 (New Body Style) w/ZW9 Fuel Fill Assembly

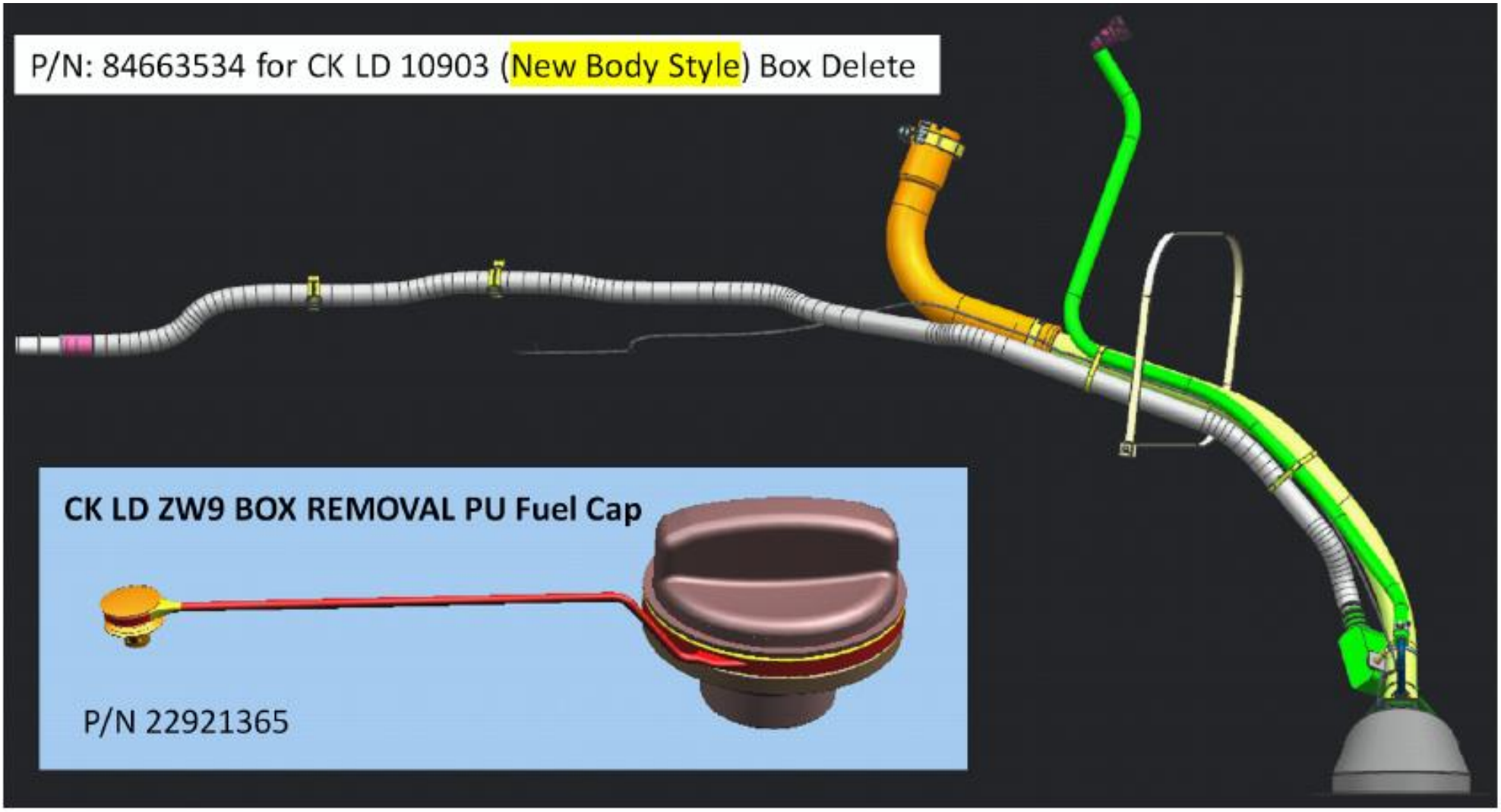
Dim. A (Back of Cab)	968.39	(+/-25.4)
Dim. C (Side of Rail)	411.79	(+/-13.0)
Dim. D (Top of Rail)	185.56	(+/-13.0)

Special Applications – Pick Up Box Removal

CK LD ZW9/Box Removal PU Fuel Filler

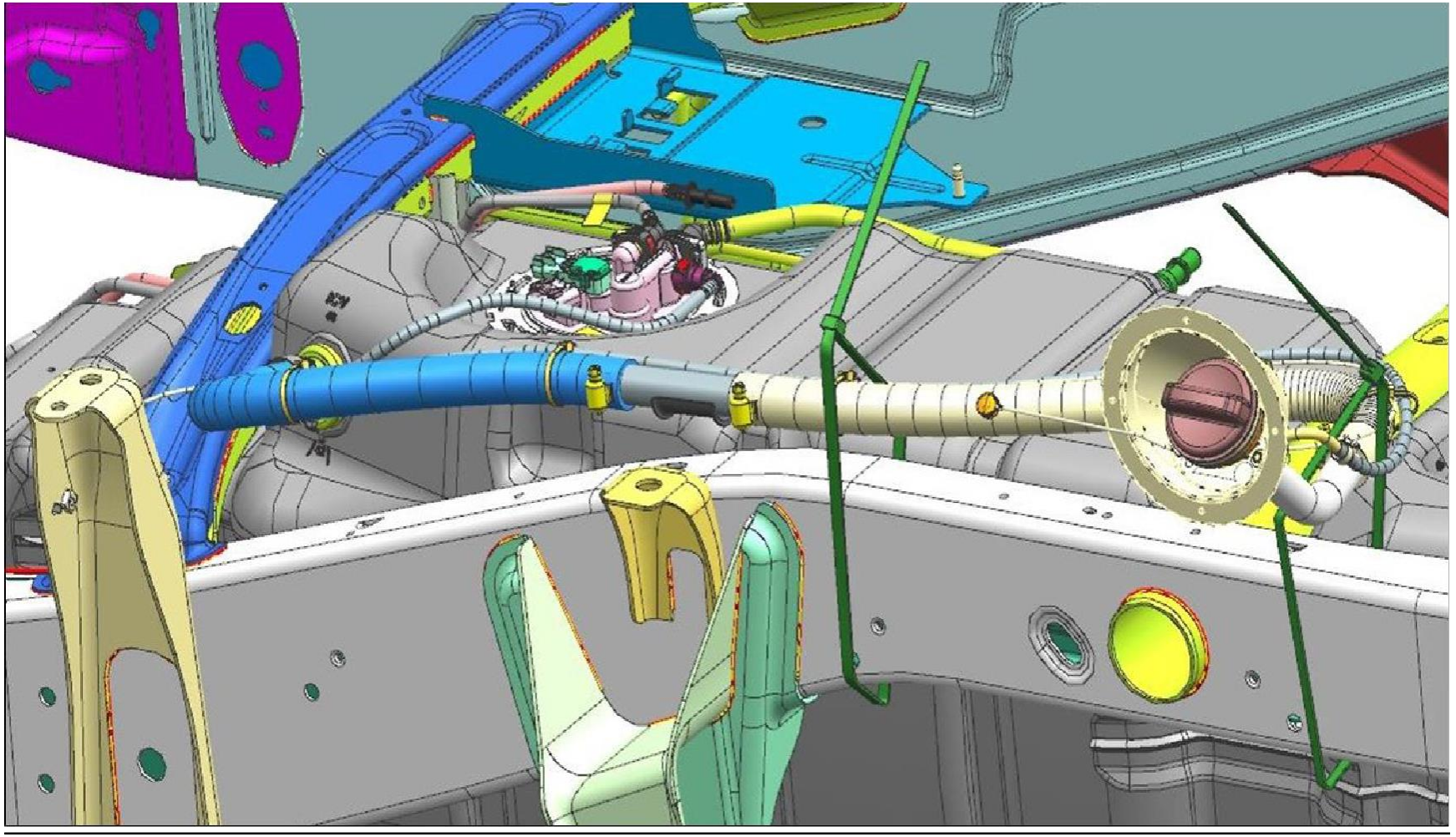


Special Applications – Pick Up Box Removal



Special Applications – Pick Up Box Removal

CK LD ZW9 Fuel Filler Shipping Location



Special Applications – Pick Up Box Removal

CK LD ZW9 Fuel Filler Shipping Location

CK HD ZW9/Box Removal PU Fuel Fillers

Part No.	Description	Series	Body Style	Options
15169365	Hose-Elbow Kit F/Fill	100,200,300	03,43,53	BJA
22774522	Pipe Asm. F/Tank Fill	360,364	03,43	&FHO&N2M/N2N
23114055	Pipe Asm. F/Tank Fill	100,200,300	03,43,53	&FHO&ZW9
22807908	Pipe Asm. F/Tank Fill	359	03,43,53	&E65&FHS-SRW
22788094	Pipe Asm. F/Tank Fill	200,359	00	&FHX&ZW9
22786540	Pipe Asm. F/Tank Fill	360,364	03,43	&FHX&N2M/N2N
22786541	Pipe Asm. F/Tank Fill	360,364	03,43	&FHX&N2L
22774521	Pipe Asm. F/Tank Fill	360,364	03,43	&FHO$N2L

Body Style:

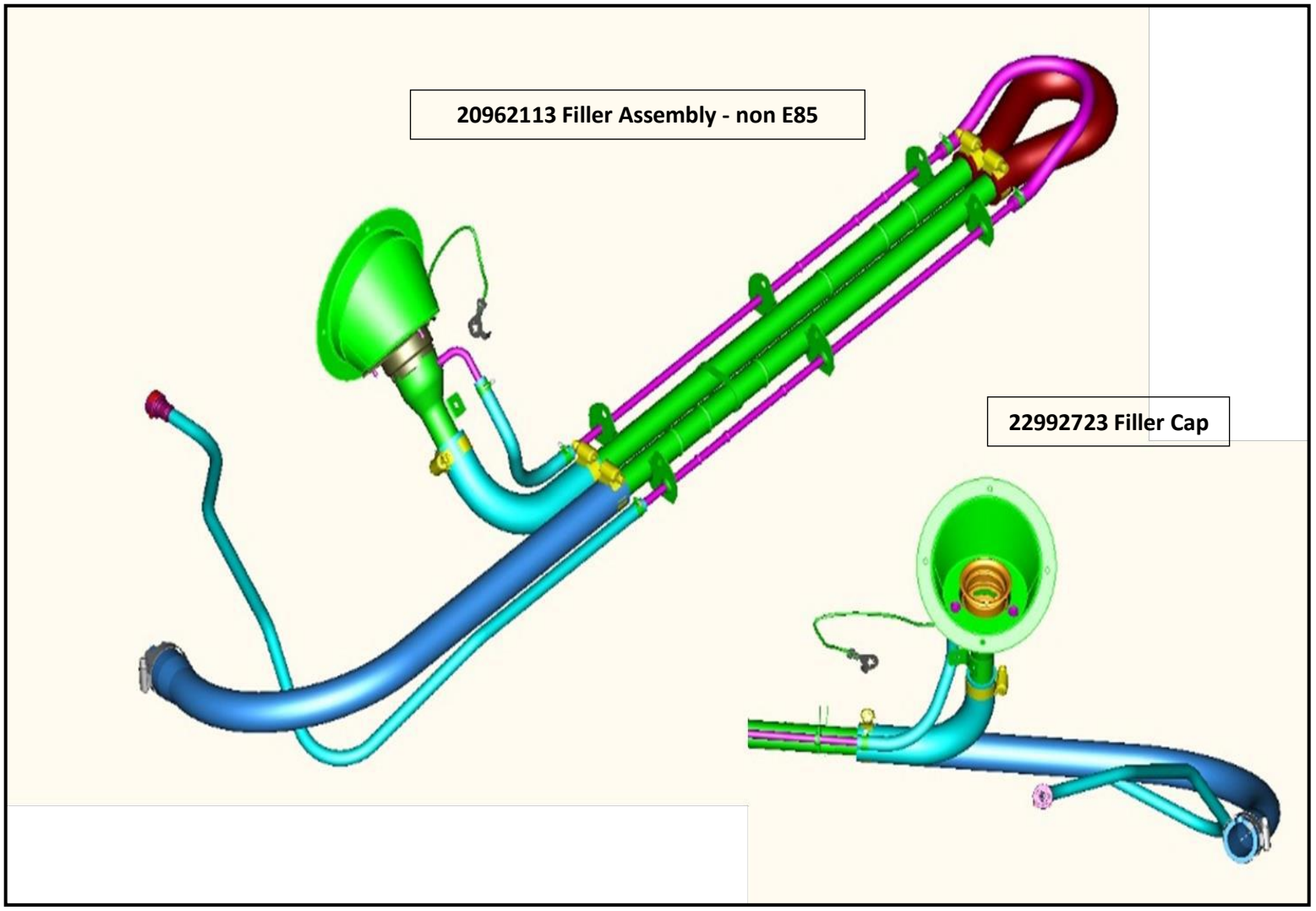
03 Regular Cab, 43 Crew Cab, 53 Extended Cab

Option Key:

FHO-Gas, FH5-E85, FHX-Diesel, ZW9-Box Delete, N2N- Dual Tank (CC), N2L Rear Tank Only (CC), N2m Front Tank Only (CC), BJA-Includes Elbows/Service body usage.

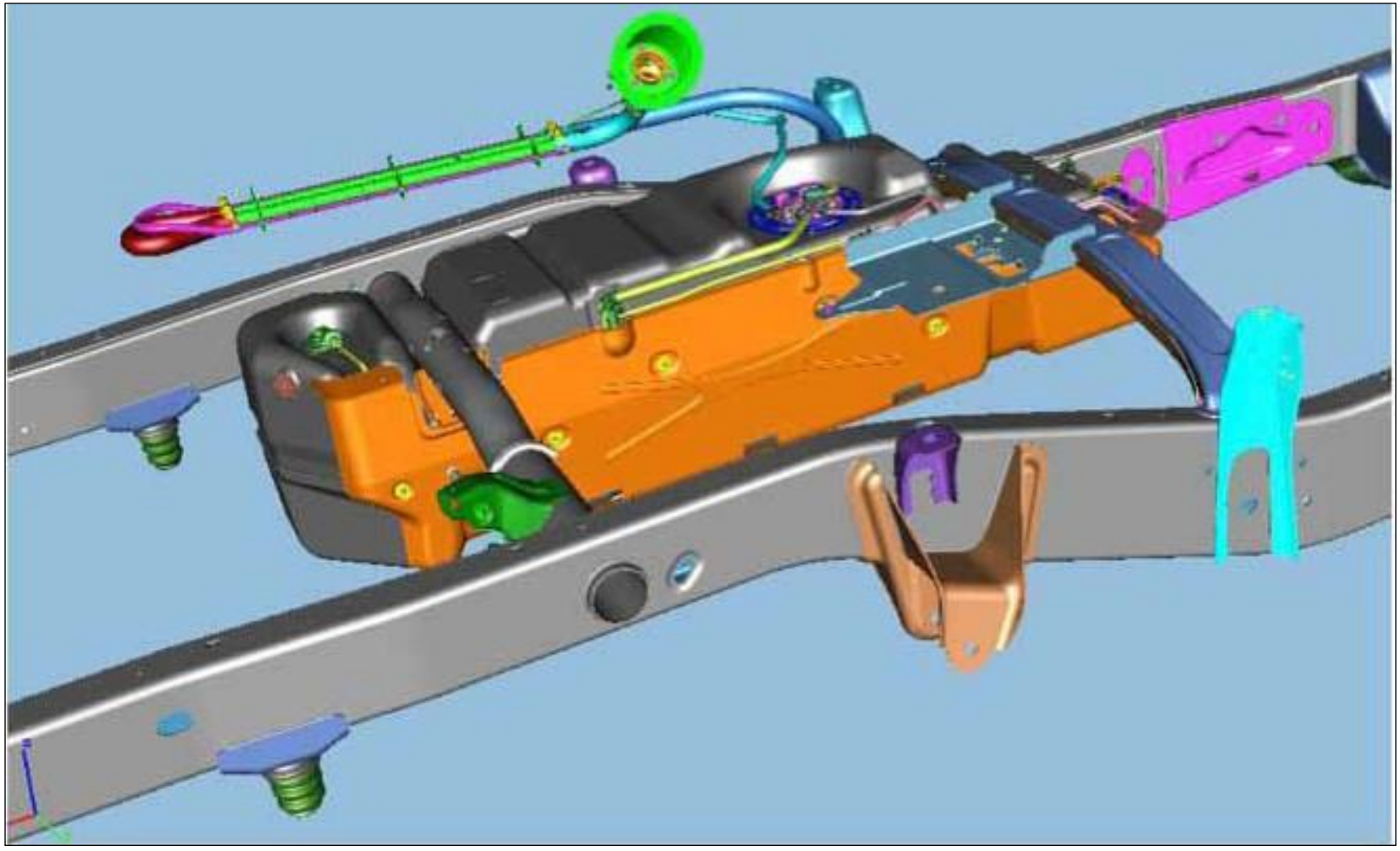
Special Applications – Pick Up Box Removal

CK HD ZW9/Box Removal PU Fuel Filler



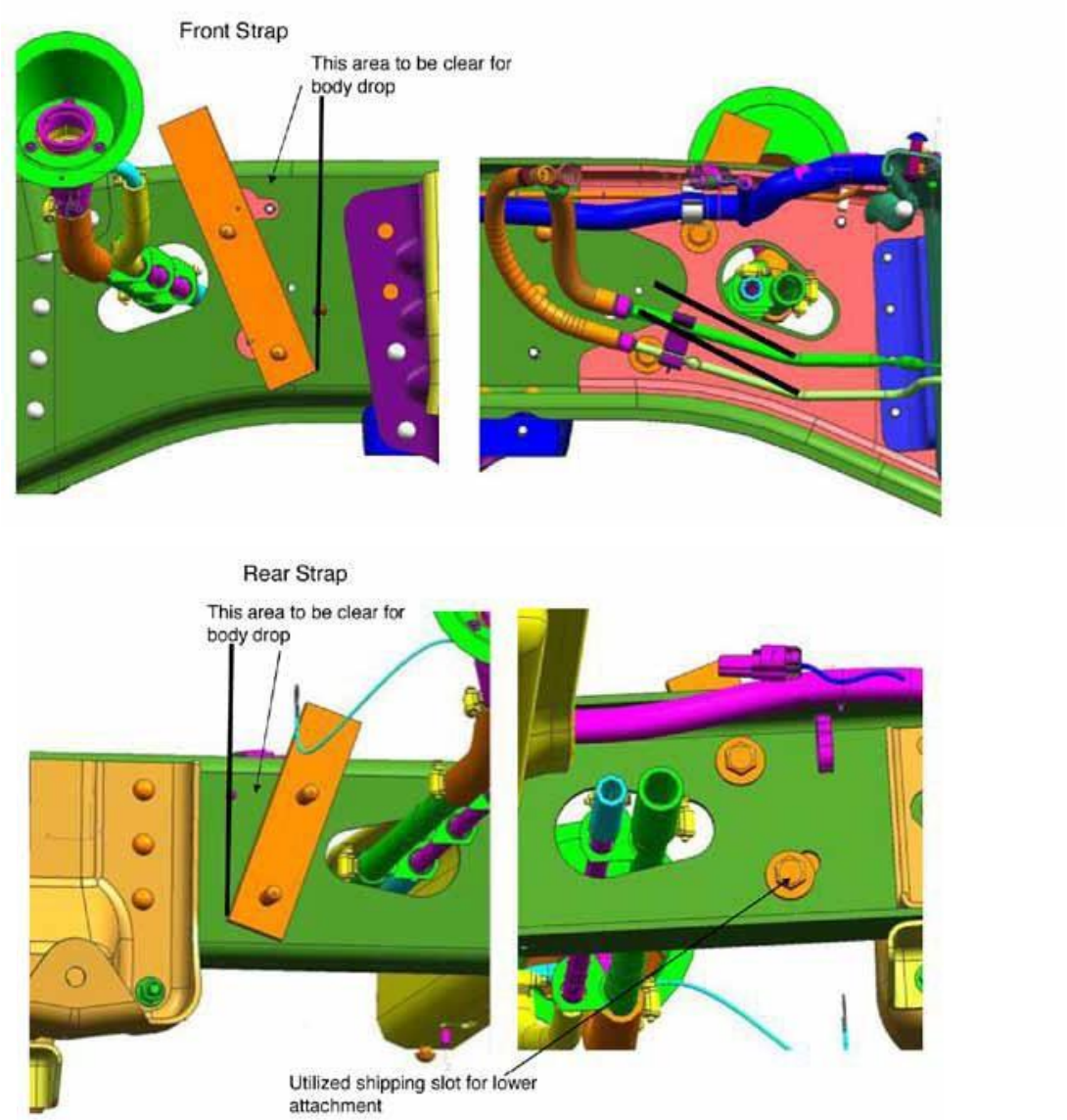
Special Applications – Pick Up Box Removal

CK HD ZW9 PU Fuel Filler Shipping Location



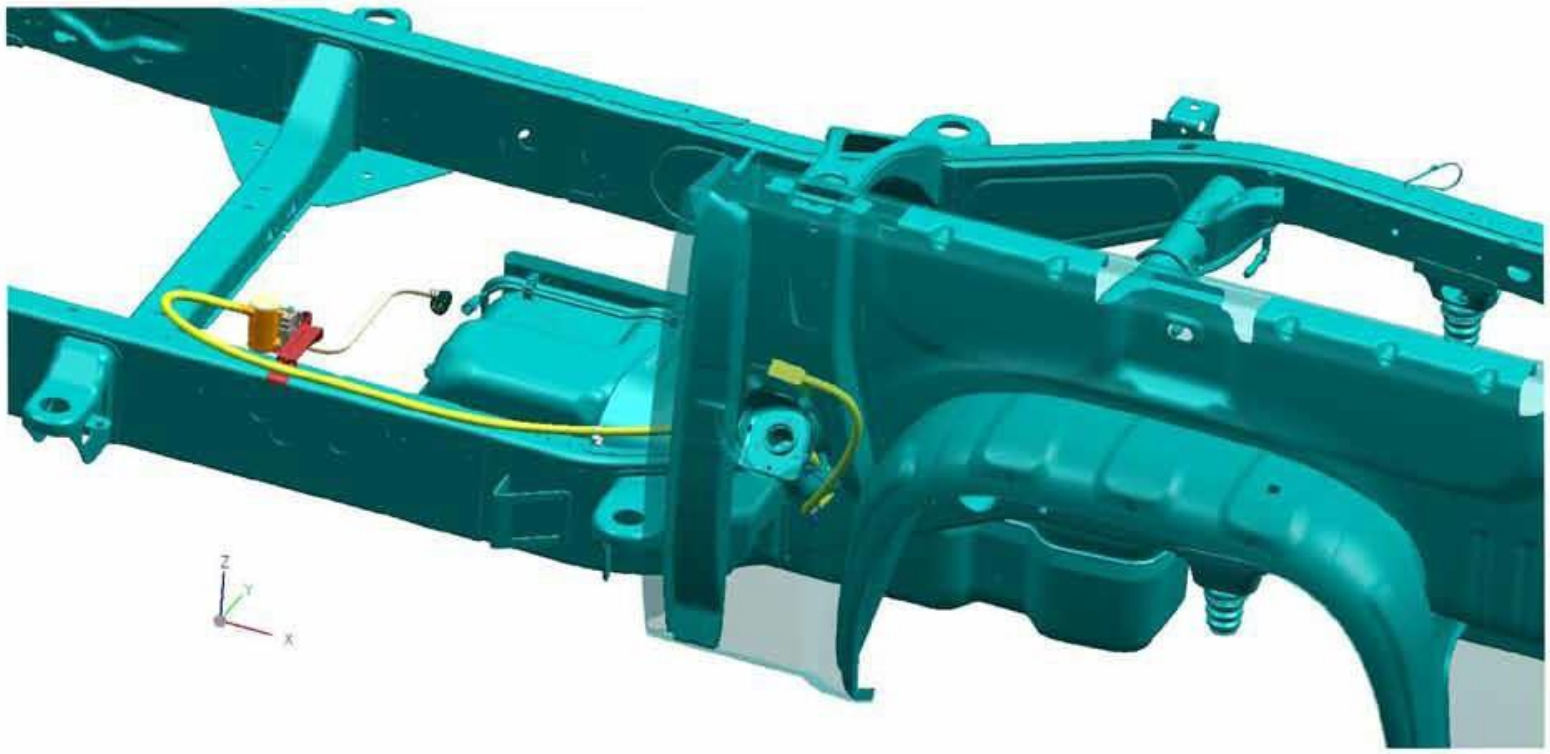
Special Applications – Pick Up Box Removal

CK HD ZW9 Cab Chassis Filler/Upfit Body Attachment


Front Strap
This area to be clear for body drop
Rear Strap
This area to be clear for body drop
Utilized shipping slot for lower attachment

Special Applications – Pick Up Box Removal

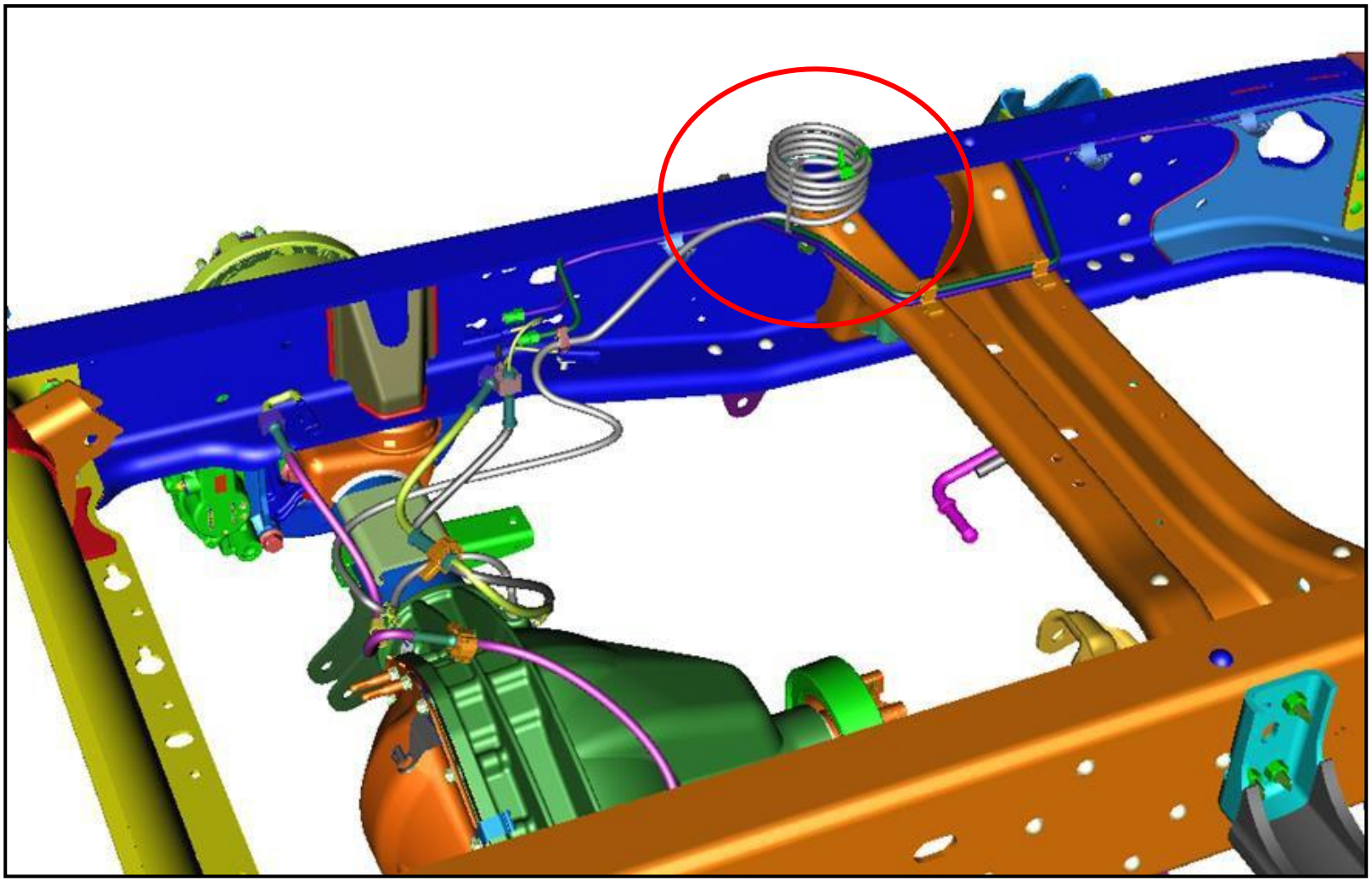
CK LD/HD ZW9 Gas Vapor Sensor (Shipped Loose)



Note:
Gas Models require Upfitter to permanently mount Vapor Pressure Sensor Unit in a sheltered environment. Sensor wire harness should also be secured properly. Harness and Sensor should be clear of moving and or heat generating chassis components.

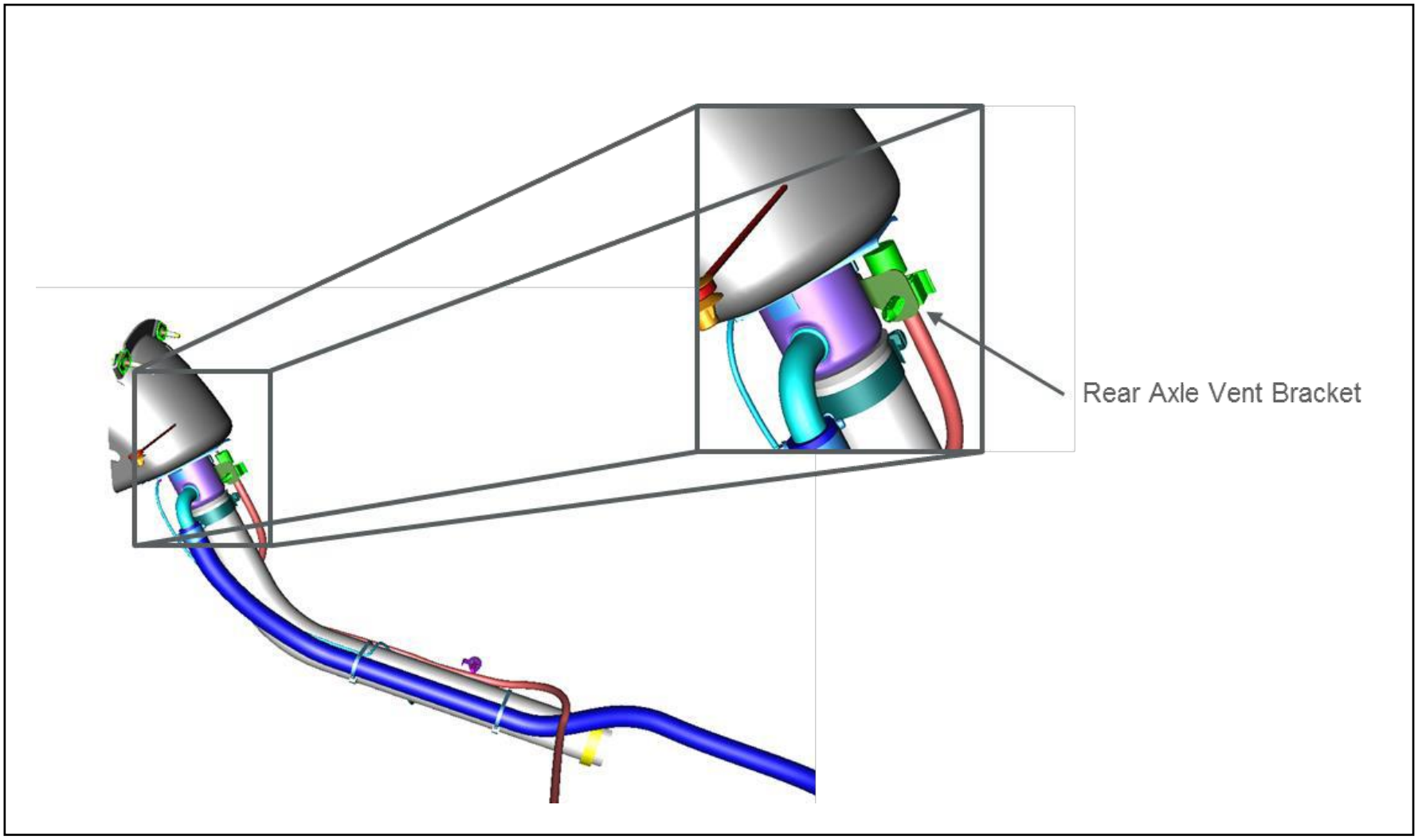
Special Applications – Pick Up Box Removal

CK HD ZW9 rear axle vent shipping location



Special Applications – Pick Up Box Removal

CK HD ZW9 rear axle vent attachment



* Note: The Final Stage Manufacturer must evaluate the Vent Hose location per their specific upfit to ensure proper function. Relocation / orientation and / or shielding may be required.